Management of maxillo-facial cases in dental office:
A report of four cases

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ABSTRACT
Objective: To expose the importance of evidence based and clinical based treatment plan versus the outdated descriptive method of dental/maxillofacial treatment.
Materials and Methods: We have projected four classical maxillo-facial cases referred to GMC Sharjah oral surgery clinic seeking suitable treatment. In reference to the case reports we executed the treatment plan based on evidence, thorough clinical evaluation and were unique from the earlier treatment as the nidus was treated rather than implementing descriptive routine treatment.
So in these clinical cases we noticed that the patients had cosmetic, functional, aesthetic and psychological problems and had lost the hopes of definitive treatment to their needs and comfort. We did all the required invasive and non-invasive investigations and then spend time with patients in conducting detail case study which cracked the nidus and each case was dealt based on the cause and requirement which landed up with less invasive treatment procedure with less expense which was beneficial for the patient.
Results: To our clinical experience and with the recent updates we were able to simplify the treatment and execute the treatment such as simple precise excision of lip, changing the position of sleeping, stabilization of teeth with existing orthodontic wires and simple release of spasm of lateral pterygoid muscle under local anesthesia gave results with good prognosis.
Conclusion: Detail case study with the existing clinical evidence would be appropriate for treating the cause and implementing the treatment protocol which would account for good efficient favorable treatment with least invasive procedure and with minimal expense. These cases had given full acceptance of the treatment implemented on them and the cases being kept classified and their prior acceptance photos and their treatment are discussed.

Keywords: essings wiring, lip correction, TMJ pain, trismus, local anesthesia & lateral pterygoid muscle.

INTRODUCTION
Historically there has been vast difference in level of teaching and practicing oral and maxillofacial surgery in different parts of the world.
The common methodology being Descriptive which is primitive and followed in most of Asian countries and clinical based or problem based learning in most parts of Europe and American dental board.
Clinical/problem based learning runs in favor of innovation and research as we have to plan the treatment according to the situation and need which are short conservative and cost effective when compared to descriptive method.

In view of the mentioned above we are presenting four cases which were treated accordingly and are as follows:

CASE 1:
This case reported to us with aesthetic/cosmetic issue in relation to this upper lip.
He had a history of trauma few years back and believes his upper lip is damaged and was worried about his small extra mass in the center of his upper lip in the midline and wanted suitable treatment.
He had visited other surgeons of UAE wherein he was given an extensive cosmetic reconstruction for the same and it was not reachable for him due to the cost.

We studied the case in detail and evaluated that it was just small fibrous mass caused due to bad suture of the lip during his earlier trauma and so we just excised the small tissue by intra-orally under local anesthesia and put a tension free suture and gave some simple lip exercise with lip massage for 15 days. The patient was kept for regular follow up to 3 months.

RESULTS
The patient was happy with the results after 3 months and had his expected smile and comfort.

DISCUSSION
Lip correction (Chieloplasty) has been practiced in different ways and techniques based on the situation till date.

Our case when studied in detail and evaluated clinically, we noticed that he was more psychologically disturbed due to trauma and believed that the lip correction so done earlier had spoiled his lip.

So this was the lead for our treatment where we had to first educate him what was needed for him and what was to be done and also gave the assurance for betterment where we found that small fibrous mass was disturbing his mind so we just eliminate the mass and rest was his consciousness to accept the treatment which lead to successful results1.

CASE 2:
This was a good case where the subject / patient was a well learned personality and had multiple maxilla/mandible problems from past 9 years and had various opinions regarding his discomfort.
He had severe pain in his joint (TMJ) which was very often and had difficult in mouth opening. He had visited various centers and specialists and had various treatment protocols based on his X-rays reports and other invasive investigations (CT/MRI/Blood investigations).

He reported to us last year 2012 for an opinion since he resided close to our center.

Before reaching us he had several appointments with other Medical specialties later he was referred to our center.

We on detailed examination and after studying his reports we noticed his TMJ pain was due to his habitual and occupational related as he was professor and was into busy continuous lectures. Taking it was the lead we had to advise him a rest and also to change his sleeping habits and for the safety gave a soft bite guard to keep his mouth at rest which was used for few hours daily and later advise to use it at his convenience.

**RESULTS**

To our expectation the results were very good and he is free from all his discomfort.

The detailed study of the case helped us to pick the nidus which was his bad sleeping habits with hard pillows and no rest to his mouth from continuous talking which was routine and was given a pause by placing the soft mouth guard (figure 9).

Discussion: TMJ problems are multifactorial and so when treated based on the leads will give best results than implementing procedures like
Arthrocentesis, Arthroscopy, etc which would not give results as expected\textsuperscript{2,3}.

**CASE 3:**
This subject being a construction worker had a severe fall from a 8feet wall and had bruises and bleeding mouth where he was given a first-aid and then he was reported to the center.

On examination he had upper teeth mobile and was suspected dento-alveolar fracture of the anterior maxillae.
As a routine procedure we generally do splinting of teeth with IMF (Inter-maxillary fixation).

But when in emergency and due to availability of materials as such cases are not routine, we planned to stabilize the traumatized upper jaw and teeth with the freely available materials in the center which was really effective.

We used the Orthodontic ligature wires and implemented Forgotten Classical ESSINGS WIRING TECHNIQUE which was regularly practiced by German plastic/maxillofacial surgeons during the II world war casualties.

This technique was implemented after detailed research on the old and new techniques because the case was not affordable for the routine type of wiring treatment (cost- benefit analysis).

![Figure 12: Trauma patient with his upper anterior teeth mobile with alveolar segment mobility (All upper four anterior teeth were mobile when reported to the clinic)](image)

![Figure 13: Orthopantogram showing spacing between the upper centrals, laterals and canines and bone loss which is also added factor for teeth mobility after trauma.](image)

![Figure 14: Orthodontic ligature wires prepared for the Essings wiring procedure](image)

![Figure 15: Materials used for the wiring procedure and they were all pre-sterilized](image)

![Figure 16: Wiring was done extending from right canine to left canine to get firm support to the mobile teeth for stabilization and immobilization.](image)
Figure 17: Essings wiring

Figure 18: All wires are in position after 48 hrs. and well maintained by the patient and no problems in his daily routine.

Figure 19: X-ray confirmation of correct wiring procedure.

Figure 20: 6weeks post treatment photo after wire removal (signs of glossy teeth shows that the teeth are vital, healthy and has become firm).

RESULTS
Since the teeth and upper jaws were stabilized on time and after regular follow up of 4-5 weeks there were very good results.

There are different techniques and procedures for handling maxilla trauma but handling with the available stuff is challenging.

Discussion: Usually Orthodontic wires are very thin and with less tensile strength to hold the jaws and teeth in position so we had to make it thicker by twisting the couple of wires together to get adequate tensile strength to stabilize the teeth for our purpose.

On to the present day technology we have no time for research for different types of simple wiring methods but rather pick the best running technique and material in practice which if we had followed then we would have lost the case due to the cost of the treatment. So our detail researching the classical wiring techniques for the need was found to be prudent which made the patient affordable for the treatment.

Before implementing our treatment we had explained and even educated the modern treatment concepts but due to the cost value he accepted our treatment.

CASE 4:
This patient being working in food preparing unit (bakery products) was not able to have a good chewable food from past 4yrs due to limited mouth opening. He was referred to various dental/medical centers and was told that he suffers from stiff joint(fibrous ankylosis of TMJ) and was advised surgery as his only choice. Due to financial insecurity he neglected the treatment and managed to run his life with the soft liquid diet till he was referred to the center.

This was truly challenging when reported to the oral surgery clinic for a general dental checkup and opinion if anything could be done other than surgery.

As usual on detailed extra-oral and limited intra-oral study we could find out that there was a long standing muscle spasm (lateral ptyergoid muscle) had
caused the situation but not the TMJ proper, so appropriate simple IM injections were given to the muscle and with few mouth exercises and results were found after 1 week.

Figure 21: Limited opening from past 4yrs and was on only soft liquid diet

Figure 22: Maximum mouth opening on force with severe pain on Right side TMJ (before procedure)

Figure 23: Intra-oral injection with the combination of Lignocaine 2% plus Bupivacaine to the lateral pterygoid muscle attachment to the joint on approximation by modifying the classical intra-oral technique for mandibular nerve block.

Figure 24: Injection in position and depositing the solution with the thumb guiding the needle which should be parallel to the external landmark (index finger).

Figure 25: Mouth opening after 1 week

Figure 26: On regular follow up after 2 weeks

Figure 27: On regular follow up
RESULTS
To our expectations there was considerable mouth opening which was more surprising for the patient as he was mentally fixed with surgery.

On regular follow up the patient had sufficient mouth opening and he took careful advice for further dental rehabilitation.

Discussion: TMJ till date is a complex structure in the maxilla-facial component, big group of muscles and bones work in concert for functional movement of the joint favoring good mouth opening and even small change in this joint functioning leads to complex conditions resulting in stiffness of the joint.

On today research Lateral pterygoid as found to be one of the major muscles to support mouth opening and if there is any problem with the muscle there is expected lock-jaw/difficulty in mouth opening2,3,5&6.

We could perform our line of treatment as our case had previously been evaluated by other medical specialties which include ENT, General physician and even neurologist who then had to refer to our center hoping some oro-facial reference may be helpful. We again referred to our medical specialties before implementing our treatment.

OVERALL DISCUSSION
All the above mentioned cases are still in regular follow up and the records are still maintained to see the effectiveness of the treatment.

Clinical based/problem based learning was very effective in the mentioned above cases as we took time in detailed study and recorded the true leads for the conditions and started treating them with the available materials in the center which found to be economical, less invasive and Innovative with good results7.

CONCLUSION
On today practice in surgical field the cost benefit analysis, Innovative and Research play a vital role in finding a suitable solution to the cause with satisfactory results rather than following old descriptive methods which are major invasive and costing more for the treatment and with added complication which is in the package of surgical intervention7.

REFERENCES

Figure 28: Extra-orl area of Right TMJ shows no abnormal changes due to injection even after 4 weeks follow up.